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X2 MARKS THE SPOT!

Børresen Acoustics X2 delivers high-end sound without the high-end price

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Børresen Acoustics X2 floorstanding loudspeaker

Jason Kennedy

Loss leader is not a term that gets bandied around the audio business very often. Sales numbers at the serious end of the market are not so great that luring the customer in with a giveaway deal is likely to result in them returning for more in the foreseeable future. Or maybe amplifiers last a lot longer than washing up liquid. But if you look at the pricing of Børresen Acoustics loudspeakers, the X2 at under £8,500 looks a bit like a loss leader. It is one heck of a superbly finished loudspeaker for the money, the like of which even the biggest companies have trouble competing. The most affordable Bowers & Wilkins 800 series floorstander, the 804 D4 is £11k, for instance; that's quite a lot for one extra driver and tweeter on top.

I reviewed the Børresen X3 last year and was very impressed with it for the same reason: it offers a lot of advanced technology in an extremely elegant boat-tail section cabinet for an equally reasonable price by high-end standards. The X2 is a very similar beast in a smaller cabinet of much the same style and proportions; it doesn't have a fancy sandwich plinth but is, in other respects, very much a mini-me of that impressive model.

The drive units consist of two four-and-a-half-inch cones and a ribbon tweeter, the topmost cone being a mid/bass, while the lower unit is dedicated to low frequencies. Both these drivers feature the distinctive spread tow-woven carbon fibre material that you will see across the Børresen loudspeaker range; this is a method of weaving much thinner carbon fibre strands than is found in most drivers that use this material and results in the chequerboard pattern that marks out the technology.

Sandwich construction

The cones are actually a sandwich construction with outer skins in carbon fibre bonded to an aramid honeycomb core, the latter provides tremendous stiffness in the direction of the cone's travel while the spread tow carbon fibre gives it lateral stiffness. Børresen designed the X series cones to "achieve maximum stiffness with minimum noise", the noise in that sentence referring to colorations or unwanted vibrations in the cone that are produced when it deforms

in dynamic conditions. It is very difficult to build a cone that can reproduce a series of sound waves without echoes of those waves reverberating within the cone after the initial impulse has been produced. Ideally, they would be like ripples in a pond that die away when they reach the edge of the driver, but that is probably impossible to achieve, so drivers like this are engineered to minimise the effects of these reflections.

Two rings for control

To keep costs at bay for drivers that are made in Denmark – which, like the rest of Europe, is an expensive place to manufacture anything – the magnet or motor system that drives the X series units is smaller than that found in Børresen's more pricey loudspeakers. Yet they retain some key tech that maintains high-end credentials; this is in the form of copper caps or rings in the pole piece that result in a flatter inductance curve and lower electro-magnetic resonance. Reducing aberrations in the inductance of the driver equates to a smoother impedance which in turn means that the amplifier has an easier job when trying to control the drive unit.

The X series tweeter is a planar ribbon rolled in at 2.5kHz and has the daunting task of handling frequencies up to a specified 50kHz. Its visible area is 65 by 27mm making it larger than average which must help at the lower end of its range, apparently the design has the potential for very high 94dB sensitivity but Børresen has reduced the amount of iron in the magnet to reduce cost which brings this figure down to a still very respectable 90dB. The ribbon has an extremely low 0.01-gram mass, which gives it the potential to accelerate and decelerate at high speed. Yet, Børresen claims it is also very robust and capable of delivering plenty of power when required. The ribbon is set into a short horn or waveguide that adds a small amount of efficiency to the driver, but has no impact on its substantial power handling properties nor its dispersion.

Balls of titanium

The X2 cabinet is a thing of beauty; its gloss black flanks curve back to a narrow spine at the back and make the speaker look smaller than its depth would suggest; the front

baffle is 175mm (6.5 inches) wide, but the rear one is only 35mm (less than 1.5 inches). The front baffle edges are post-formed, as is the transition from baffle to the top of the box, which slopes backwards under a lacquered carbon fibre skin; the same finish can be seen underneath the drivers on the front of the cabinet. This is a subtle finishing and stiffening detail that makes the X2 stand out from the crowd of shiny speakers. The whole thing sits on a plinth with outriggers for resonance control feet. Like all sensible speaker makers, Børresen eschew spikes in favour of sister brand Ansuz's Darkz feet; these have a circular indentation in the underside, which can interface with Darkz resonance control devices via titanium balls. Alternatively, you can put them straight onto the floor regardless of whether it's carpeted or hard.

Connections to the speaker cable are made via a single pair of vertically aligned terminals, and the dedicated fan of parent company Audio Group Denmark can use Ansuz cables for this purpose; I stuck with the Townshend Fractal F1, which seems to do a pretty good job in all instances. Overall sensitivity for the X2 is 88dB at four Ohms, which is not terribly efficient, so I used higher powered amps for the majority of listening, initially a rather nice Bricasti M25 (150W) and latterly a Moor Amps Angel 6, also 150W.

Space in between

The X2 user guide suggests placing these speakers near the room corners with 50cm to the back wall and as little as 15cm to the side walls, which seems very close for a rear-ported design. I cannot put speakers that close to side walls but could have three metres between the inside feet of each speaker (the minimum distance they recommend) with over four metres to the listening seat. Speakers usually sit about two metres apart in my system. Børresen also recommends toeing in the X2s such that their axis crosses behind the listening seat, which in practice means you can see the inside flank of each, which was duly followed.

Unsurprisingly, the effect of this set-up is to create a soundstage that, while it doesn't extend beyond the outside edges of the speakers, is cavernous in between. »





The treble is refined and sweet, which means that you can hear plenty of detail, but it's never splashy or zingy in the way metal dome tweeters can be.



» It's an arrangement that suits some recordings better than others. Generally, the better ones benefitted the most, while those with instruments or vocals in individual channels felt a little empty in the middle. Overall, though, it worked well, and I will try it with other speakers in future. It allowed the X2s to 'disappear' with decent recordings whilst delivering a rich, refined tonal balance that reflected the nature of recording and ancillary equipment with remarkable accuracy. The Rega Naia turntable was delivered whilst the Børresens were in situ and it was immediately apparent that the quality of vinyl sound had risen significantly. Every record played had

its own distinct character, with all the nuances revealed both good and compressed, but every record sounded great in its own way. I tried a few speakers in this way and the X2s proved consistently better than most at resolving the way this turntable reveals so much about each recording, it was a lot of fun and hard to put down.

China Doll

The X2's tonal balance is, if anything, on the dark side; the treble is refined and sweet, which means that you can hear plenty of detail, but it's never splashy or zingy in the way that metal dome tweeters can be. The bass balance can be adjusted with placement but is on the rich side with more warmth than average, this made it forgiving and delightfully plush with good recordings but not thick or slow. With double bass, for instance, the sense of speed and depth of each note produced strong three-dimensional solidity. Still, something like Stevie Wonder's 'Big Brother' sounds very mannered in the bass with a lot of thickeners and an odd balance, yet it is brilliant nonetheless. The Grateful Dead's live version of 'China Doll' (*Reckoning*) delivers an extraordinarily powerful full-scale image from which the harmonies ring out in beautiful fashion; it's easy to hear why the audience reacts so positively to this, and almost as easily to close your eyes and be in that audience.

Radiohead's 'The Tourist' also manages to evoke beauty in its own way, the guitar crying out in such articulate fashion that you have to wonder how much rock guitar Johnny Greenwood listened to before launching the indie band to beat them all. I particularly enjoyed how the Børresens manage to deliver the energy and angularity of the guitar without the screech that usually accompanies it; whether this is strictly accurate is hard to say; how many guitar amps have ribbon tweeters? But the result is an intense sound that doesn't pierce the ears.

With the Moor Amps in the driving seat, you lose some of the finesse but little of the musicality that makes the X2s so enjoyable. The tonal balance remains the same as does the strengths of timing and imaging that make these speakers so effective, the Naia turntable continued to carry me away as well, revealing Frank Zappa's 'Find Her Finer' (*Zoot Allures*) to be a fabulous cut with juicy bass, lots of space and another of the man's diverse range of guitar sounds. The focus is on the music, however, which is really inspiring, particularly when the title track from this album comes along and almost makes it impossible to do anything else but float away with the music. »



The cabinets are spectacularly well built and finished, and the drive unit technology is clearly in the Premier League.



» Riley Walker's *Golden Sings That Have Been Sung* is a more contemporary production where considerable effort has gone into getting a particular sound, which, while it has plenty of appeal, is full of manipulation that isn't really about high fidelity. This much is immediately apparent with the X2s, but so is the fact that this is superb music, the quality of songwriting and musicianship being far more obvious than the effects applied to give it a certain sound.

As I had just about enough Darkz T2 feet and titanium balls to put under the Børresens, this was done, and the effects auditioned; these were primarily a tightening of the

bass and an opening up of the soundstage still further. The bass benefitted the most and now I could play dub in full effect and get really articulate, well extended low frequencies without any sense of thickness. A similar result could be achieved by pulling the X2s into the room, I suspect, but the 50cm gap plus the 55cm depth of the cabinet meant they were already close enough.

Worthwhile experience

I also tried a Trilogy 921 integrated amplifier to see if its 75W would be sufficient to control these speakers, this proved to be a very worthwhile exercise as the partnership was not only beautifully balanced and timed but also delivered an emotional impact that was soul stirring. If you've not heard Bobby Womack's version of 'Fire and Rain' on a decent system, make sure you do at your earliest convenience.

It's hard to see how Børresen manages to bring the X2s to market at the price it does. The cabinets are spectacularly well built and finished, and the drive unit technology is clearly in the Premier League, and, not insignificantly, this is a small/medium sized Danish company without the backing of an international organisation. It's hard to see that they can make much margin on the X2, which means that by high-end standards, these Børresens are a clear bargain. +

Technical specifications

Type reflex loaded 2.5-way, three-driver, floorstanding speaker

Driver complement One 65mm planar ribbon tweeter;
one 4.5 inch carbon fibre bass midrange driver;
one 4.5 inch carbon fibre bass driver

Crossover frequencies 2.5kHz

Frequency response 40Hz–50kHz

Impedance 4 Ohms

Sensitivity 88dB/W/m

Dimensions (H×W×D) 1100 × 300 × 550mm inc plinth

Weight 36.4kg/each

Finishes Black or white piano lacquer

Price £8,500/pair, \$8,800/pair

Manufacturer Audio Group Denmark

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